

### **Remarks**

Claims 1-18 are pending and rejected.

Claims 1-13 under 35 U.S.C. § 103(a) as being unpatentable over "Cracking Rock: Progress in Fracture Treatment Design" (*Brady*) in view of United States Patent Application Publication 2002/0198819 (*Munoz*). Applicants respectfully traverse the rejection.

As described in the specification and recited in the claims, the claimed pump data model is a modeling or simulation program and is not related to *Brady*'s back analysis of data taken from sensors. The claimed modeling or simulation program represents a database of models of fractures which will induce a pump data model depending of the data taken by the sensors which will fit the best representation of the well fracture. *Brady* describes no such process.

*Munoz* does not resolve the shortcomings of *Brady*. Further, *Munoz* does not describe or imply hydrocarbon recovery or pumps. Nothing in either reference suggests that the references may be combined. The Examiner asserts that the references "are analogous because they both come from the same problem solving area of calculating a return on investment." This rationale encompasses household budgeting for the education of children, animal husbandry, agricultural crop production, institutional investments, and poker and is so overbroad as to render the rationale meaningless. Withdrawal of the rejection is respectfully requested.

The Examiner rejected claims 14-18 under 35 USC 103(a) as being unpatentable over *Brady* in view of *Munoz* and in further view of United States Patent Number 5,934,373 (*Warpinski*). Applicants respectfully traverse the rejection. As outlined above in more detail, the claimed pump data model is a modeling or simulation program and cannot be interpreted as data taken from sensors. Further, the combination of *Brady* and *Munoz* is not properly supported by either reference or additional Examiner analysis. *Warpinski* does not resolve the shortcomings of *Brady* and *Munoz*. Specifically, *Warpinski* does not describe or imply a pump data model in combination with tiltmeter and microseismic data as recited in claim 14 and claims dependent thereon. Also, the combination of the three references is not proper. The Examiner's rationale to combine, "they all come from the same problem solving area of data modeling and raining a model using real-world data" is not supported by the text of any of the references or more substantive Examiner analysis. Withdrawal of the rejection is respectfully requested.

This response is being submitted within two months from the date of the office action. If any extension of time or other fee is believed necessary, however, such extension or fee is hereby

requested. The Commissioner is authorized to charge any additional required fee, or credit any excess fee paid, to Deposit Account 04-1579 (56.0713).

Respectfully submitted,  
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